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=> fil medline
FILE 'MEDLINE' ENTERED AT 07:41:29 ON 03 FEB 2003

 FILE LAST UPDATED: 2 FEB 2003 (20030202/UP). FILE COVERS 1958 TO DATE.

 On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

 MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
 MeSH 2003 vocabulary. See http://www.nlm.nih.gov/mesh/summ2003.html
 for a description on changes.

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d his

     (FILE 'HOME' ENTERED AT 07:22:55 ON 03 FEB 2003)
               SET COST OFF

     FILE 'MEDLINE' ENTERED AT 07:23:06 ON 03 FEB 2003
L1             21 S (GDF OR GROWTH DIFFERENTIAT? FACTOR)()8
L2            120 S MYOSTATIN
L3            120 S ?MYOSTATIN?
L4            126 S L1-L3
L5              9 S L4 AND (DOWNREGULAT? OR DOWN REGULAT?)
                  E DOWN-REGULATION/CT
L6          13799 S E3-E11
                  E E3+ALL
L7          13799 S E13+NT
L8         235990 S E12+NT
L9             23 S L4 AND L6-L8
L10            26 S L5,L9
                  E VACCINE/CT
                  E E51+ALL
L11         85623 S E7+NT
                  E VACCINES/CT
                  E E4+ALL
                  E E2+ALL
L12          8707 S E19+NT
L13             0 S L4 AND L11-L12
                  E MUTATION/CT
                  E E3+ALL
                  E E3+ALL
L14            32 S E3+NT AND L4
L15           111 S D12./CT AND L4
L16            24 S L15 AND L10
L17            31 S L15 AND L14
L18            54 S L14,L16,L17
L19           109 S D24./CT AND L4
L20            51 S L19 AND L10,L18
                  E RECOMBINANT PROTEIN/CT
                  E E4+ALL
L21        150147 S E4+NT
L22             6 S L21 AND L4
                  SEL DN AN 2 4 6
L23             3 S L22 AND E1-E9
L24             3 S L23 AND L1-L23
L25            26 S L10 NOT L22
L26            24 S L25 AND L11-L21 NOT L22
                  E MOLECULAR SEQUENCE DATA/CT
L27            40 S E3+NT AND L4
L28            40 S L27 AND L5-L26
                  E INJECTION/CT
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                E E28+ALL
L29        164421 S E4+NT
L30             1 S L4 AND L29
L31             3 S L24 AND L1-L30

     FILE 'MEDLINE' ENTERED AT 07:41:29 ON 03 FEB 2003

=> d all tot 131

L31  ANSWER 1 OF 3      MEDLINE
AN   2002289375      MEDLINE
DN   22025712    PubMed ID: 12029139
TI   Induction of cachexia in mice by systemically administered
     myostatin.
AU   Zimmers Teresa A; Davies Monique V; Koniaris Leonidas G; Haynes Paul;
     Esquela Aurora F; Tomkinson Kathy N; McPherron Alexandra C; Wolfman Neil
     M; Lee Se-Jin
CS   Department of Molecular Biology and Genetics, Johns Hopkins School of
     Medicine, 725 North Wolfe Street, Baltimore, MD 21205, USA.
NC   5 T32 CA09139 (NCI)
     R01 CA88866 (NCI)
     R01 HD35887 (NICHD)
SO   SCIENCE, (2002 May 24) 296 (5572) 1486-8.
     Journal code: 0404511. ISSN: 1095-9203.
CY   United States
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200206
ED   Entered STN: 20020528
     Last Updated on STN: 20020621
     Entered Medline: 20020620
AB   Mice and cattle with genetic deficiencies in myostatin exhibit
     dramatic increases in skeletal muscle mass, suggesting that
     myostatin normally suppresses muscle growth. Whether this
     increased muscling results from prenatal or postnatal lack of
     myostatin activity is unknown. Here we show that myostatin
     circulates in the blood of adult mice in a latent form that can be
     activated by acid treatment. Systemic overexpression of myostatin
     in adult mice was found to induce profound muscle and fat loss analogous
     to that seen in human cachexia syndromes. These data indicate that
     myostatin acts systemically in adult animals and may be a useful
     pharmacologic target in clinical settings such as cachexia, where muscle
     growth is desired.
CT   Check Tags: Animal; Female; Support, Non-U.S. Gov't; Support, U.S. Gov't,
     P.H.S.
      3T3 Cells
        Activins: AD, administration & dosage
        Activins: PD, pharmacology
      Adipose Tissue: AH, anatomy & histology
      Adipose Tissue: PA, pathology
      Body Weight
      CHO Cells
     *Cachexia: ET, etiology
      Cachexia: ME, metabolism
      Cachexia: PA, pathology
      Eating
      Hamsters
      Liver: AH, anatomy & histology
      Liver: PA, pathology
      Mice
      Mice, Nude
      Muscle Fibers: CY, cytology
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Muscle Fibers: PA, pathology
*Muscle, Skeletal: AH, anatomy & histology
Muscle, Skeletal: PA, pathology
Organ Weight
Peptide Fragments: AD, administration & dosage
Peptide Fragments: PD, pharmacology
Recombinant Proteins: AD, administration & dosage
Transforming Growth Factor beta: AD, administration & dosage
Transforming Growth Factor beta: BL, blood
***Transforming Growth Factor beta: PH, physiology**
Wasting Syndrome: ET, etiology
Wasting Syndrome: ME, metabolism
Wasting Syndrome: PA, pathology
Weight Loss
RN 104625-48-1 (Activins)
CN 0 (Peptide Fragments); 0 (Recombinant Proteins); 0 (Transforming Growth Factor beta); 0 (follistatin); 0 (**myostatin**)

L31 ANSWER 2 OF 3 MEDLINE
AN **2001476765** MEDLINE
DN **21410593** PubMed ID: **11519824**
TI **GDF-8** propeptide binds to **GDF-8** and antagonizes biological activity by inhibiting **GDF-8** receptor binding.
AU Thies R S; Chen T; Davies M V; Tomkinson K N; Pearson A A; Shakey Q A; Wolfman N M
CS Genetics Institute, Inc., Cambridge, MA 02140, USA.. sthies@genetics.com
SO GROWTH FACTORS, (2001) 18 (4) 251-9.
Journal code: 9000468. ISSN: 0897-7194.
CY Switzerland
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200202
ED Entered STN: 20010827
Last Updated on STN: 20020209
Entered Medline: 20020208
AB **GDF-8** is a new member of the TGF-beta superfamily which appears to be a negative regulator of skeletal muscle mass. Factors which regulate the biological activity of **GDF-8** have not yet been identified. However, the biological activities of TGF-beta superfamily members, TGF-beta1, -beta2 and -beta3, can be inhibited by noncovalent association with TGF-beta1, -beta2 and beta3 propeptides cleaved from the amino-termini of the TGF-beta precursor proteins. In contrast, the propeptides of other TGF-beta superfamily members do not appear to be inhibitory. In this investigation, we demonstrate that purified recombinant **GDF-8** propeptide associates with purified recombinant **GDF-8** to form a noncovalent complex, as evidenced by size exclusion chromatography and chemical crosslinking analysis. Furthermore, we show that **GDF-8** propeptide inhibits the biological activity of **GDF-8** assayed on A204 rhabdomyosarcoma cells transfected with a (CAGA)12 reporter construct. Finally, we demonstrate that **GDF-8** propeptide inhibits specific **GDF-8** binding to L6 myoblast cells. Collectively, these data identify the **GDF-8** propeptide as an inhibitor of **GDF-8** biological activity.
CT Check Tags: Animal; Human; In Vitro
Bone Morphogenetic Proteins: AI, antagonists & inhibitors
CHO Cells
Cell Line
Growth Substances: GE, genetics
Growth Substances: IP, isolation & purification

***Growth Substances: ME, metabolism**
Hamsters
Kinetics
Protein Precursors: GE, genetics
Protein Precursors: IP, isolation & purification
***Protein Precursors: ME, metabolism**
Receptors, Growth Factor: ME, metabolism
Recombinant Proteins: GE, genetics
Recombinant Proteins: IP, isolation & purification
Recombinant Proteins: ME, metabolism
***Transforming Growth Factor beta: AI, antagonists & inhibitors**
Transforming Growth Factor beta: GE, genetics
Transforming Growth Factor beta: IP, isolation & purification
***Transforming Growth Factor beta: ME, metabolism**
CN 0 (BMP-11 protein); 0 (Bone Morphogenetic Proteins); 0 (Growth Substances); 0 (Protein Precursors); 0 (Receptors, Growth Factor); 0 (Recombinant Proteins); 0 (Transforming Growth Factor beta); 0 (**growth-differentiation factor 8**)

L31 ANSWER 3 OF 3 MEDLINE
AN **2001178957** MEDLINE
DN **21113664** PubMed ID: **11158924**
TI **Myostatin** inhibits cell proliferation and protein synthesis in C2C12 muscle cells.
AU Taylor W E; Bhasin S; Artaza J; Byhower F; Azam M; Willard D H Jr; Kull F C Jr; Gonzalez-Cadavid N
CS Division of Endocrinology, Metabolism and Molecular Medicine, Charles R. Drew University of Medicine and Science, 1731 E. 120th St., Los Angeles, California 90059, USA.. wataylor@mail2.cdrewu.edu
NC 1RO1 AG-14369 (NIA)
1RO1 DK-46296 (NIDDK)
5SO6 GM-08140-23 (NIGMS)
SO AMERICAN JOURNAL OF PHYSIOLOGY. ENDOCRINOLOGY AND METABOLISM, (2001 Feb) 280 (2) E221-8.
Journal code: 100901226. ISSN: 0193-1849.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200103
ED Entered STN: 20010404
Last Updated on STN: 20010404
Entered Medline: 20010329

AB **Myostatin** mutations in mice and cattle are associated with increased muscularity, suggesting that **myostatin** is a negative regulator of skeletal muscle mass. To test the hypothesis that **myostatin** inhibits muscle cell growth, we examined the effects of recombinant **myostatin** in mouse skeletal muscle C2C12 cells. After verification of the expression of cDNA constructs in a cell-free system and in transfected Chinese hamster ovary cells, the human recombinant protein was expressed as the full-length (375-amino acid) **myostatin** in Drosophila cells (Mst375D), or the 110-amino acid carboxy-terminal protein in Escherichia coli (Mst110EC). These proteins were identified by immunoblotting and were purified. Both Mst375D and Mst110EC dose dependently inhibited cell proliferation (cell count and Formazan assay), DNA synthesis ([3H]thymidine incorporation), and protein synthesis ([1-14C]leucine incorporation) in C2C12 cells. The inhibitory effects of both proteins were greater in myotubes than in myoblasts. Neither protein had any significant effects on protein degradation or apoptosis. In conclusion, recombinant **myostatin** proteins inhibit cell proliferation, DNA synthesis, and protein synthesis in C2C12 muscle cells, suggesting that **myostatin** may control muscle mass by inhibiting muscle growth or regeneration.

CT Check Tags: Animal; Human; Support, U.S. Gov't, P.H.S.
Apoptosis: DE, drug effects
CHO Cells
Cell Division: DE, drug effects
Cell Line
DNA: BI, biosynthesis
Dose-Response Relationship, Drug
Drosophila
Escherichia coli
Hamsters
***Muscle Proteins: BI, biosynthesis**
*Muscle, Skeletal: CY, cytology
Muscle, Skeletal: DE, drug effects
*Muscle, Skeletal: ME, metabolism
Recombinant Proteins: PD, pharmacology
***Transforming Growth Factor beta: PD, pharmacology**
RN 9007-49-2 (DNA)
CN 0 (Muscle Proteins); 0 (Recombinant Proteins); 0 (Transforming Growth Factor beta); 0 (**myostatin**)